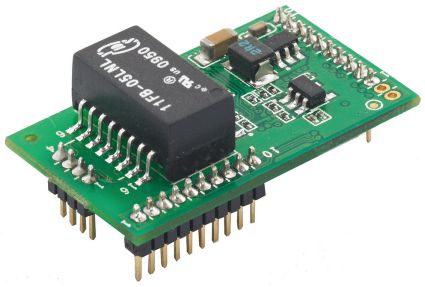
MiiNePort E2 Series

Award-winning Product
TAIWAN EXCELLENCE 2013

10/100 Mbps embedded serial device servers



- Smallest embedded device server available—only 29 x 17 x 12.6 mm
- EZPower for 3.3 to 5 VDC system power input supported
- Extremely low power consumption
- Uses the MiiNe, Moxa's second generation SoC
- Simple integration with NetEZ technology
- Operation versatility with Real COM/TCP/UDP/RFC2217/MCSC

Overview

Moxa's MiiNePort E2 series embedded device servers are designed for manufacturers who want to add sophisticated network connectivity to their serial devices with minimal integration effort. The MiiNePort E2 is empowered by the MiiNe, Moxa's second generation SoC, which supports 10/100 Mbps Ethernet, delivers a serial baudrate of up to 921.6 kbps, offers a versatile selection of ready-to-use operation modes, and requires a minimal amount of power. With Moxa's innovative NetEZ technology, the MiiNePort E2 can convert any device with a standard serial interface to an Ethernet-enabled device. In addition, the MiiNePort E2 is the smallest embedded device server without an RJ45 connector, making it easy to fit into virtually any existing serial device.

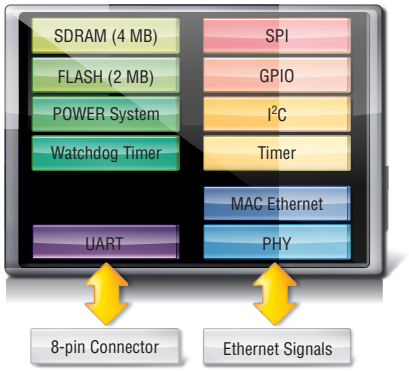
The MiiNe—Moxa's 2nd Generation SoC

MiiNe

The MiiNe was created to provide manufacturers with a competitive embedded serial-to-Ethernet solution. The MiiNePort E2, which uses the MiiNe for its SoC, is one of the world's tiniest embedded device servers and has the lowest power consumption among similar products. The MiiNe's features include:

- Cost-effective serial-to-Ethernet conversions
- ARM core
- Advanced UART technology
- Internal 2 MB Flash and 4 MB SDRAM memory

MOXA MiiNe (196-pin CPU)



Specifications

Form Factor

Type: Drop-in module
Dimensions: 29 x 17 x 12.6 mm (1.14 x 0.67 x 0.50 in)
Weight: 5 g (0.01 lb)

System Information

CPU: 32-bit ARM Core
RAM: 4 MB built in
Flash: 2 MB built in

Ethernet Interface

Number of Ports: 1
Speed: 10/100 Mbps, auto MDI/MDIX
Magnetic Isolation Protection: 1.5 kV built-in

Serial Interface

Number of Ports: 1
Transmission Format: Standard TTL

Serial Communication Parameters

Data Bits: 5, 6, 7, 8
Stop Bits: 1, 1.5, 2
Parity: None, Even, Odd, Space, Mark
Flow Control: RTS/CTS, DTR/DSR, XON/XOFF
Baudrate:
MiiNePort E2: 50 bps to 230.4 kbps
MiiNePort E2-H: 50 bps to 921.6 kbps
Note: Non-standard baudrates supported

Serial Signals

TTL: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RST (reset circuit), GND

Digital I/O Pins

GPIO: 4 configurable I/O pins

Software

Network Protocols: ICMP, ARP, IPv4, TCP, UDP, DHCP, HTTP, SNMP V1, SMTP, TFTP, Auto IP, Telnet, BOOTP
Configuration Options: Web Console, Serial Console (Serial Command Mode), Telnet Console, Windows Utility
Windows Real COM Drivers: Windows 95/98/ME/NT/2000, Windows XP/2003/Vista/2008/7/8/8.1/10 (x86/x64), Windows 2008 R2/2012/2012 R2 (x64), Windows Embedded CE 5.0/6.0, Windows XP Embedded
Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X
Linux Real TTY Drivers: Linux 2.4.x, 2.6.x, 3.x, 4.x
Android API: Android 3.1.x and later
Operation Modes: Real COM, TCP Server, TCP Client, UDP, Ethernet Modem, RFC2217, MCSC
NetEZ Function: EZPower, EZPage, SCM (Serial Command Mode), AutoCFG, MCSC (Multi-channel Serial Communication)

Environmental Limits

Operating Temperature:
Standard Models: 0 to 55°C (32 to 131°F)
Wide Temp. Models: -40 to 85°C (-40 to 185°F)
Storage Temperature (package included): -40 to 60°C (-40 to 140°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Power Requirements

Input Voltage: 3.3 to 5 VDC
Input Current: 157 mA @ 3.3 VDC

Standards and Certifications

EMC: EN 55032/24
EMI: CISPR 32, FCC Part 15B Class B
EMS:
IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV
IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m
IEC 61000-4-4 EFT: Power 1 kV; Signal 0.5 kV
IEC 61000-4-5 Surge: Power 2 kV; Signal: 0.5 kV
IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m
IEC 61000-4-8 PFMF
IEC 61000-4-11
Vibration: IEC 60068-2-6, 5-25.7 Hz: ±15 mm; 25.7-500 Hz: 20g; 3 hours/axis
Shock: IEC 60068-2-27, 500g/2ms
Drop: IEC 60068-2-34, IEC 60068-2-32, ISTA-2A
Note: Standards testing is done with the MiiNePort E2-ST or MiiNePort E2-H-ST starter kits.

Reliability

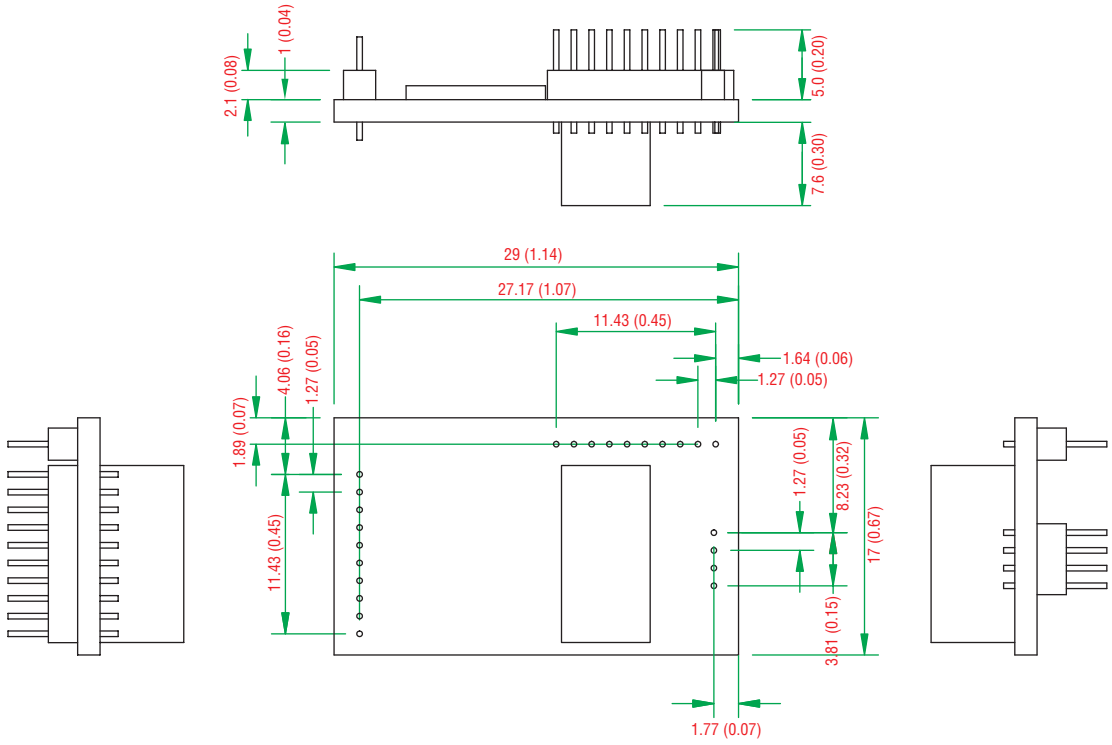
MTBF (mean time between failures):
Time: 5,696,350 hrs
Standard: Telcordia (Bellcore) SR-332

Warranty

Warranty Period: 5 years
Details: See www.moxa.com/warranty

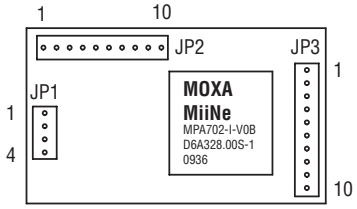
Dimensions

Unit: mm (inch)



Pin Assignment

JP1			JP2			JP3		
Pin	Signal Name	Function	Pin	Signal Name	Function	Pin	Signal Name	Function
1	Ethernet Tx+	Ethernet Transmit Data+	1	100M LED	Ethernet 100M LED	1	DIO0	Programmable Input/Output
2	Ethernet Tx-	Ethernet Transmit Data-	2	10M LED	Ethernet 10M LED	2	DI02	Programmable Input/Output
3	Ethernet Rx+	Ethernet Receive Data+	3	LRXD	Receive Serial Data	3	DI03	Programmable Input/Output
4	Ethernet Rx-	Ethernet Receive Data-	4	LTXD	Transmit Serial Data	4	DI01	Programmable Input/Output
			5	LDCD	Data Carrier Detect	5	Reserved	N/A
			6	RS485_EN	RS-485 Enable	6	Reserved	N/A
			7	LRTS	Request To Send	7	SW_Reset	Reset to Factory Default
			8	LDTR	Data Terminal Ready	8	GND	Circuit Ground
			9	LDSR	Data Set Ready	9	Ready LED	System is Ready LED
			10	LCTS	Clear To Send	10	VCC	Power Supply



Ordering Information

Available Modules

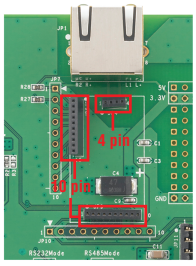
MiiNePort E2: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 kbps baudrate, 0 to 55°C operating temperature
MiiNePort E2-H: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 kbps baudrate, 0 to 55°C operating temperature
MiiNePort E2-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 230.4 kbps baudrate, -40 to 85°C operating temperature
MiiNePort E2-H-T: Embedded device server for TTL devices, drop-in module, 10/100M without RJ45 connector, 50 bps to 921.6 kbps baudrate, -40 to 85°C operating temperature

Available Starter Kits

MiiNePort E2-ST: Starter kit for the MiiNePort E2 Series, module included
MiiNePort E2-H-ST: Starter kit for the MiiNePort E2-H Series, module included

Optional Accessories (can be purchased separately)

PWR-12125-DT-S1: Desktop power supply (requires power cord), 12 VDC, 1.25 A, 100 to 240 VAC
PWC-C7US-2B-183: 10A/125V US power cord, 183 cm
PWC-C7EU-2B-183: 2.5A/250V Continental European (EU) power cord, 183 cm
CBL-F9M9-150: DB9 female to DB9 male serial cable, 150 cm
CBL-RJ458P-100: 8-pin RJ45 CAT5 Ethernet cable, 100 cm
Female Socket Connectors: Includes one 1x4 DIP, two 1x10 DIP



Female Socket Connectors

Package Checklist (modules)

- MiiNePort E2 module

Package Checklist (starter kits)

- MiiNePort E2 module
- MiiNePort E2 evaluation board
- Universal power adapter
- Power Cord: PWC-C7US-2B-183
- Power Cord: PWC-C7EU-2B-183
- Serial Cable: CBL-F9M9-150
- Ethernet Cable: CBL-RJ458P-100
- Documentation and software CD
- Quick installation guide (printed)
- Warranty card